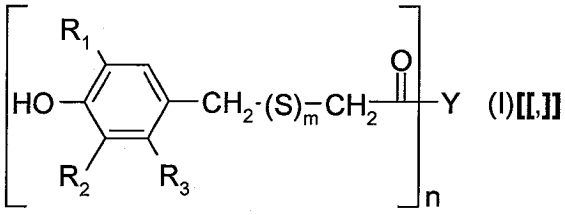
Claims Listing

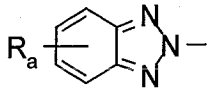
1. (original) A method of producing low-dust granules of polymer additives or polymer additive mixtures, wherein the granule-forming polymer additives are mixed together, the mixture is converted into a workable mass and pressed through an orifice, and the pre-shaped strand-like extruded mass is cooled and, while still in a workable state, formed into granules by rolling, impressing, cooling and comminuting.

2. (currently amended) A method according to claim **1**, wherein there are mixed together as granule-forming polymer additives phenolic polymer additives of formula**[[:]]** (I)



(I)**[[.]]**

wherein, independently of one another, one of R_1 and R_2 is hydrogen, a substituent selected from the group C_1-C_{18}alkyl, phenyl, (C_1-C_4alkyl)$_{1-3}$phenyl, phenyl-C_1-C_3alkyl, (C_1-C_4alkyl)$_{1-3}$phenyl-C_1-C_3alkyl, C_5-C_{12}cycloalkyl and (C_1-C_4alkyl)$_{1-3}$$C_5$-$C_{12}$cycloalkyl or a group of partial formula (A)



(A)**[[.]]**

wherein R_a is hydrogen or a substituent selected from the group C_1-C_4alkyl, halogen and sulfo; and the other is a substituent selected from the group C_1-C_{18}alkyl, phenyl, (C_1-C_4alkyl)$_{1-3}$phenyl, phenyl-C_1-C_3alkyl, (C_1-C_4alkyl)$_{1-3}$phenyl-C_1-C_3alkyl, C_5-C_{12}cycloalkyl and (C_1-C_4alkyl)$_{1-3}$$C_5$-$C_{12}$cycloalkyl or a group of partial formula (A) wherein R_a is as defined;

R_3 is hydrogen or methyl;

m is the number zero or 1; and

n is an integer from 1 to 4; wherein,

when n is the number 1,

m is zero or 1 and Y denotes

a monovalent substituent –O-Y_1 or –N(-Y_2)$_2$, wherein

Y_1 is C_5-C_{45}alkyl, C_3-C_{45}alkyl interrupted by at least one oxygen atom, C_5-C_{12}cycloalkyl, C_2-C_{12}alkenyl, a substituent of partial formula (B)

$$-CH_2-CH(OH)-CH_2-O-C(=O)-R_b \qquad [[,]] \qquad (B)[[,]]$$

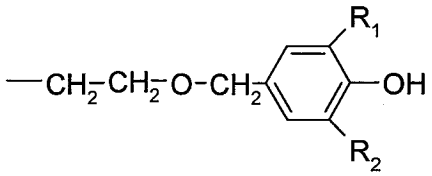
wherein R_b is hydrogen, C_1-C_8alkyl, C_3-C_5alkenyl or benzyl,
a substituent of partial formula (C)

$$-CH_2-CH_2-O-R_c \qquad (C)[[,]]$$

wherein R_c is hydrogen, C_1-C_{24}alkyl, C_5-C_{12}cycloalkyl or phenyl,
a substituent of partial formula (D)

$$-CH_2-CH_2-O-CHR_d-CHR_e-C(=O)-O-R_f \qquad (D)[[,]]$$

wherein one of R_d and R_e is hydrogen or methyl and the other is methyl, and R_f is hydrogen or C_1-C_{24}alkyl,
a substituent of partial formula (E)



(E)[[,]]

wherein R_1 and R_2 are as defined above,
or a substituent of partial formula (F)

$$-CH_2-CH_2-O-CH_2-C(=O)-O-R_g \qquad (F)[[,]]$$

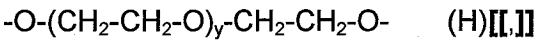
wherein R_g is hydrogen or C_1-C_{24}alkyl; and
Y_2 is hydroxy-C_2-C_4alkyl; or,

when n is the number 2,
m is zero and Y is a bivalent group of partial formula (G)

$$-O-C_xH_{2x}-O- \quad (G)[[,]]$$

wherein x is an integer from 2 to 20,

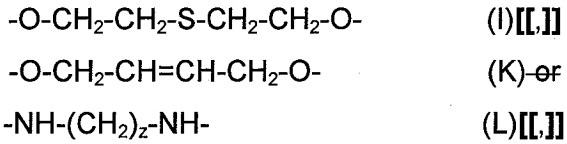
a bivalent group of partial formula (H)



(H)[[,]]

wherein y is an integer from 1 to 30,

or a bivalent group of partial formula (I), (K) or (L)



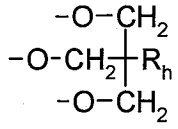
(I)[[,]]

(K) ~~or~~

(L)[[,]]

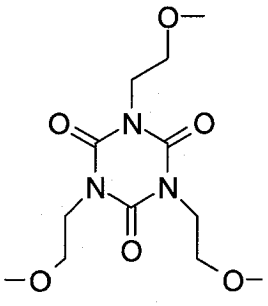
wherein z is zero or an integer from two to ten; or,

when n is the number 3, m is zero and Y is a trivalent group of partial formula (M)



(M)[[,]]

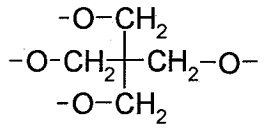
wherein R_h is C_1-C_{24}alkyl or phenyl, or (N)



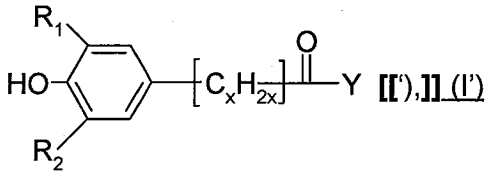
(N)[[;]]

or,

when n is the number 4, m is zero and Y is the tetravalent group of partial formula

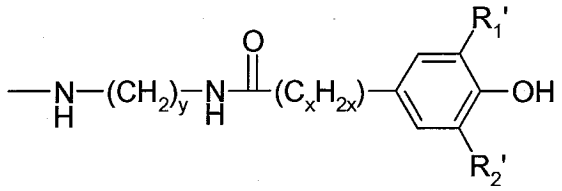


3. (currently amended) A method according to claim **1**, wherein there are mixed together as granule-forming polymer additives phenolic polymer additives of formula**[[:]]** (I')

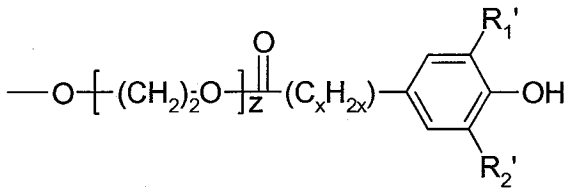


[[',]] (I')

wherein, independently of one another, one of R_1 and R_2 is hydrogen or C_1-C_4alkyl and the other is C_3-C_4alkyl; x is zero (direct bond) or an integer from one to three; and Y is C_8-C_{22}alkoxy or a group of partial formula (I'A), (I'B) or (I'C)

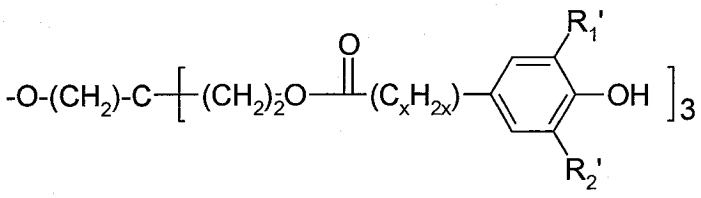


(I'A)**[[,]]**



(I'B)

~~or~~



(I'C)**[[,]]**

wherein, independently of one another, one of R_1' and R_2' is hydrogen or C_1-C_4alkyl and the other is C_3-C_4alkyl; x is zero (direct bond) or an integer from one to three; y is an integer from two to ten and z is an integer from two to six.

4. (currently amended) A method according to claim **1**, wherein the mixture of granule-forming polymer additives is converted into a workable mass in a heatable co-kneader~~ko-kneader~~.

5. (currently amended) A method according to claim **4[[1]]**, wherein the workable mass is extruded from the co-kneader~~ko-kneader~~ through a circular nozzle or slot-shaped nozzle and the pre-shaped, strand-like mass is subjected to further processing.

6. (original) A method according to claim **1**, wherein the plastic, pre-shaped mass is processed by squeeze rollers having a smooth and polished surface and then shaping rollers provided with embossing lines.

7. (original) A method according to claim **1**, wherein the shaping rollers are provided with grooves.

8. (original) A method according to claim **1**, wherein the transport and the cooling and solidification are carried out on a continuous steel belt.

9. (currently amended) A method according to claim **4[[1]]**, wherein the components of the granule-forming polymer additives are fed into the co-kneader~~ko-kneader~~ in liquid or solid form or in molten form.

10. (original) A method according to claim **1**, wherein the impressed product mat is comminuted to granule size in a sieve granulator.